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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,156	01/11/2006	Shingo Fujii	1422-0706PUS1	6018
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EXAMINER SULLIVAN, DANIELLE D				
ART UNIT 1616		PAPER NUMBER		
NOTIFICATION DATE 08/24/2009		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/564,156

**Applicant(s)**

FUJII ET AL.

**Examiner**

DANIELLE SULLIVAN

**Art Unit**

1616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 May 2009.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 4-6 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,2 and 4-6 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/CI/CD)  
Paper No(s)/Mail Date 1/21/2009  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Claims 1, 2 and 4-6 are pending.

### ***Withdrawn rejections***

Applicant's amendments and arguments filed 5/04/2009 are acknowledged and have been fully considered. Any rejection and/or objection not specifically addressed below are herein withdrawn.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuyori et al. (JP 2003-012422, English Machine translation) in view of Hayashi et al. (US 6,695,227).

### **Applicant's Invention**

Applicant claims an aerosol comprising a disinfectant, a solvent and a propellant, in a pressure-resistant container with an actuator, having a pressure of 0.15-0.4 MPa as expressed by a gauge pressure at 25 degrees Celsius, wherein the solvent is 0-8% by volume and the actuator has an orifice diameter of from 0.7-2 mm and where the

average particle diameter is 15 to 45  $\mu\text{m}$  at a position having a straight line distance from an orifice of 150 cm. Claim 4 specifies the aerosol has a spraying amount at 25 degrees Celsius of from 0.8 to 3 g/sec. Claim 5 specifies the solvent is a paraffinic hydrocarbon. Claim 6 specifies the disinfestant is selected from metofluthrin, phthalthrln, d-T80-phtrlatrin, d,d-T80-prallethrin, d,d-T98-prallethrin, d-T80-resmethrin, transflutrin, imiprothrin, cyphenothrin and d,d-T-cyphenothrin. Claim 7 specifies the average particle diameter is from 15 to 45  $\mu\text{m}$ , at 25 degrees Celsius, at a position having a straight line distance from an orifice of 150 cm.

**Determination of the scope and the content of the prior art**  
**(MPEP 2141.01)**

Yasuyori et al. discloses a method of exterminating insects by spraying and aerosol product [0001]. The aerosol is in a pressure resistant container that contains a solvent, an active compound and a propellant [0007]. The solvent comprises paraffin hydrocarbons [0010]. The compound is contained in 0.01-5% of the solvent [0008]. The aerosol has a mean particle diameter of 20-40  $\mu\text{m}$  [0013]. The aperture of the actuator ranges from 0.9-2mm within a pressure of 0.353 MPa (3-6 kg/cm<sup>3</sup> at 25 degrees C) [0016-17]. The spraying amount is 0.4-2.5 g/sec in 25 degrees C [0021].

Yasuyori et al. teach that the average particle diameter is from 20 to 40  $\mu\text{m}$  at 25 degrees Celsius at a position having a straight line distance from an orifice of 50 cm. Yasuyori et al. teach that the insecticide may be selected from pyrethroid compounds, such as permethrin [0025].

**Ascertainment of the difference between the prior art and the claims  
(MPEP 2141.02)**

Yasuyori et al. do not teach a straight line distance from an orifice of 150 cm. Furthermore, Yasuyori et al. do not disclose the disinfectant is selected from metofluthrin, phthalthrin, d-T80-phtrlatrin, d,d-T80-prallethrin, d,d-T98-prallethrin, d-T80-resmethrin, transflutrin, imiprothrin, cyphenothrin and d,d-T-cyphenothrin. It is for this reason that Hayashi et al. is joined.

Hayashi et al. teach an aerosol spraying apparatus where the active ingredients include pyrethroid compounds selected from resmethrin, prallethrin, phthalthrin, permethrin, pyphenothrin and transfluthrin (column 8, lines 2-40). The pyrethroids are preferred from the standpoint of safety (column 7, lines 53-55). The spraying apparatus

can allow the sprayed contents to reach 2.5 m from the spray orifice by adjusting the propellant, spraying pressure or by using the apparatus in a state where it hangs on or down from a wall so the aerosol contents are allowed to reach a distance of 2.5 or more (column 26, line 59 thru column 27, line 7).

### **Finding of prima facie obviousness**

#### **Rationale and Motivation (MPEP 2142-2143)**

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Yasuyori et al. and Hayashi et al. to further include adjusting the straight line distance from an orifice to 150 cm. One would have been motivated to manipulate ranges during routine experimentation to discover the optimum or workable range because Hayashi et al. teach that sprayed contents can reach 2.5 m by adjusting the propellant, spraying pressure or by using the apparatus in a state where it hangs on or down from a wall.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Yasuyori et al. and Hayashi et al. to further include pyrethroid compounds selected from resmethrin, prallethrin, phthalthrin, permethrin, pyphenothrin and transfluthrin. One would have been motivated to include these compounds because Hayashi et al. teach that pyrethroid compounds are safer than other insecticides.

***Response to Arguments***

Applicant's arguments filed 5/04/2009 have been fully considered but they are not persuasive.

Applicant argues that Yasuyori discloses the weight ratio of a solution to a propellant is 4/6 to 1/9 (i.e., 10-40% by weight), thereby making the minimum amount of the solution 10% by weight. Applicants argue that the amendment limit the amount to 0 to 8% by volume which is not obvious in view of the teachings of Yasuyori. The Examiner is not persuaded by Applicants argument.

First, the specified amount of solvent as disclosed by Yasuyori is 10% or less which encompasses 0-8% [0011]. Also, [0015] of Yasuyori does not teach the ratio of solution to propellant, instead the ratio of liquid medicine to propellant is taught. Hence, how applicant draws to the conclusion that 0-8% is not obvious is unclear. One would have been motivated to manipulate ranges during routine experimentation to discover the optimum or workable range since the Yasuyori provides the general range. In view of *In re Aller, Lacey, and Hall*, 105 USPQ 233 (C.C.P.A. 1955), a change in concentration is not a patentable modification unless, new and unexpected results, which are different in kind and not merely degree from the results of the prior art, are demonstrated.

Applicants argue Yasuyori teaches a particle size range of 20-40 um, however the size of the sprayed particles of the present invention are much larger which is unexpected. The Examiner is not persuaded by this argument because claim 1 limits the average particle diameter to from 15 to 45 um. Hence, Yasuyori teaches a particle

size of at least 40 um. Furthermore, Applicant has failed to demonstrate a much larger particle size than expected in the form of a side-by-side comparison with the teachings of Yasuyori.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Danielle Sullivan whose telephone number is (571) 270-3285. The examiner can normally be reached on 7:30 AM - 5:00 PM Mon-Thur EST.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on (571) 272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Danielle Sullivan  
Patent Examiner  
Art Unit 1616

*/Mina Haghighatian/*  
Primary Examiner, Art Unit 1616